

WHAT IS CLAIMED IS:

1. A flash ROM (read-only memory) content updating system, comprising:

a primary information unit having a plurality of memory blocks for storing core operating information for the system;

5 an information register for storing updated information inputted to the system, wherein the updated information is divided into a plurality of update information blocks corresponding to the size of the memory blocks in the primary information unit;

a check-sum module for performing check-sum calculation to form and designate a binary check code to each of the memory blocks and the update information blocks respectively for the primary information unit and the information register;

10 a logic comparison module for performing logic operations and comparison on the check codes so as to determine if the check code of one of the memory blocks in the primary information unit is consistent with the check code of a corresponding one of the update information blocks in the information register;

15 an addressing module for storing information addresses associated with the non-consistent check codes of the corresponding memory blocks and update information blocks as determined by the logic comparison module; and

an information updating module, upon receiving the stored information addresses from the addressing module, for erasing information stored in the memory blocks having the non-consistent check codes, and for reading information from the corresponding update information blocks in the information register and writing the read information to the information-erased memory blocks.

20 2. The system of claim 1, wherein the primary information unit is an erasable programmable ROM (EPROM) selected from the group consisting of UV-EPROM (ultraviolet-EPROM), EEPROM (electrically EPROM), and a flash ROM.

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3. The system of claim 1, wherein the core operating information includes data for BIOS (basic input/output system) settings or embedded software.
4. The system of claim 1, wherein the information stored in the information register disappears as the system is shut off, and the information register is a static random
5 access memory (SRAM) or dynamic RAM (DRAM).
5. The system of claim 1, wherein the binary check code is obtained by performing the check-sum calculation of files, names, sizes, times, dates and content in each of the memory blocks and the update information blocks.
6. The system of claim 1, wherein the logic comparison module is located in a CPU
10 (central processing unit).
7. The system of claim 1, wherein the addressing module is a register for storing the information addresses, which is a base address register or instruction address register.
8. The system of claim 1, wherein the information updating module is a ROM burner or burner simulation software.
- 15 9. A flash ROM content updating method for use with an information updating system so as to allow a user to quickly update information stored in a memory unit of an electronic device, the memory unit having a plurality of memory blocks stored with primary core information, the flash ROM content updating method comprising the steps of:
- 20 1) performing check-sum calculation on the primary core information stored in the plurality of memory blocks to form and designate a check code to each of the memory blocks;
- 2) inputting updated information via the user;
- 3) determining if there is an update command provided with the updated
25 information; if no, proceeding to step 8); if yes, proceeding to step 4);

4) dividing the updated information into a plurality of update information blocks, and performing check-sum calculation for the update information blocks to form and designate a check code to each of the update information blocks;

5) determining if the check code of one of the memory blocks is consistent with the check code of a corresponding one of the update information blocks; if yes, proceeding to step 8); if no, proceeding to step 6);

6) storing information addresses associated with the non-consistent check codes of the corresponding memory blocks and update information blocks;

7) erasing the information stored in the memory blocks having the non-consistent check codes, and writing the information from the corresponding update information blocks to the information-erased memory blocks; and

8) ending the content updating process.

10. The flash ROM content updating method of claim 9, wherein the information updating system comprises:

a primary information unit having the plurality of memory blocks in step 1);

an information register for storing the updated information inputted in step 2) and performing the determination operation in step 3);

a check-sum module for performing the block division and check-sum calculation in step 4);

a logic comparison module for performing the determination operation in step 5) according to the check codes obtained in steps 1) and 4);

an addressing module for performing the address storage in step 6) according to the determination result from step 5); and

an information updating module for performing the information erasing and writing operation in step 7) according to the stored addresses from step 6).

11. The flash ROM content updating method of claim 9, wherein the electronic device is selected from the group consisting of a digital camera, electronic dictionary, personal digital assistant (PDA), personal computer (PC), and notebook computer.

12. The flash ROM content updating method of claim 9, wherein the update information
5 blocks are sized corresponding to the memory blocks, and the updated information includes updated data for BIOS settings or embedded software.

13. The flash ROM content updating method of claim 9, wherein the check code is obtained by performing the check-sum calculation of files, names, sizes, times, dates and content in each of the memory blocks and the update information blocks.

10 14. The flash ROM content updating method of claim 10, wherein the addressing module is a register for storing the information addresses, which is a base address register or instruction address register.

15. The flash ROM content updating method of claim 10, wherein the information updating module is a ROM burner or burner simulation software.